

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (canceled):

Claim 13 (currently amended): A polymer mixture consisting of:

at least one synthetic first polymer P(i) and at least one second polymer P(j),

wherein the first polymer P(i) has a degree of polymerisation $DP(P(i)) > 500$ and at least one type of crystallisable sequences A having a degree of polymerisation $DPs(P(i))$ of these sequences > 20 ,

wherein the second polymer P(j) is made up of the same monomer units as the sequences A of P(i) and the degree of polymerisation $DP(P(j))$ of P(j) is $20 < DP(P(j)) < 500$,

wherein the polymer mixture comprises a molecularly dispersed mixture containing P(i) and P(j) that forms a network under heterocrystallisation,

wherein P(i) or the sequences A of P(i) comprises a polyolefin selected from the group consisting of a polypropylene, polyethylene, VLDPE, LDPE, LLDPE, HDPE, HMWPE, UHMWPE and mixtures thereof; and

wherein P(j) has a polydispersity < 30 and is selected from the group consisting of n-alkanes C_nH_{2n+2} ; isoalkanes C_n , cyclic alkanes C_nH_{2n} , polyethylene wax; paraffins and paraffin wax of mineral origin such as macrocrystalline, intermediate or microcrystalline paraffins, brittle, ductile, elastic or plastic microcrystalline paraffins; paraffins and paraffin wax of synthetic origin; hyper-branched alpha olefins; polypropylene wax and mixtures thereof; and

wherein P(i) has a degree of branching $< 3 \times 10^{-2}$, and P(j) has a degree of branching $< 5 \times 10^{-2}$; and

wherein the polymer mixture in the form of a thermoplastic melt is prepared by a means selected from the group consisting of a double-screw extruder, a single-screw extruder with mixing section, a Buss-Ko kneader and combinations thereof.

Claim 14 (previously presented): The polymer mixture according to claim 13, wherein under comparable processing conditions of P(i) and of P(i) + P(j) the quotient of the yield stress $sy(i, j)$ of P(i) + P(j) and the yield stress $sy(i)$ of P(i), $sy(i, j)/sy(i)$ is >1.1 and <3.0 .

Claim 15 (currently amended): The polymer mixtures ~~of~~ according to claim 14, wherein $E(i, j)$ is >1.3 , $sy(i, j)$ is > 1.2 and $eb(i, j)$ is > 1.03 .

Claim 16 (currently amended): The polymer mixtures ~~of~~ according to claim 14, wherein $E(i, j)$ is >1.5 , $sy(i, j)$ is > 1.3 and $eb(i, j)$ is > 1.05 .

Claim 17 (currently amended): The polymer mixtures ~~of~~ according to claim 14, wherein $E(i, j)$ is >2.0 , $sy(i, j)$ is > 1.5 and $eb(i, j)$ is $> 1:10$.

Claim 18 (previously presented): The polymer mixture according to claim 13, wherein a quotient of the MFI(i, j) of the mixture of P(i) + P(j) and the MFI(i) of P(i), $MFI(i, j)/MFI(i)$ is >1.2 and <500 .

Claim 19 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is >1.5 .

Claim 20 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is >2.0 .

Claim 21 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is >3.0 .

Claim 22 (previously presented): The polymer mixture according to claim 13, wherein under comparable processing conditions of P(i) and of P(i) + P(j), the quotient of the crystallinity $K(i, j)$ of P(i) + P(j) and the crystallinity $K(i)$ of P(i), $K(i, j)/K(i)$ is >1.03 and <3 .

Claim 23 (previously presented): The polymer mixture according to claim 22, wherein the quotient of $K(i, j)$ and $K(i)$ is >1.05 .

Claim 24 (previously presented): The polymer mixture according to claim 22, wherein the quotient of $K(i, j)$ and $K(i)$ is >1.1 .

Claim 25 (previously presented): The polymer mixture according to claim 22, wherein the quotient of $K(i, j)$ and $K(i)$ is >1.2 .

Claim 26 (previously presented): The polymer mixture according to claim 13, wherein the fraction $A(j)$ of $P(j)$ relative to $P(i) + P(i)$ in wt.% is in the range $1 < A(j) < 90$.

Claim 27 (previously presented): The polymer mixture according to claim 13, wherein the fraction $A(j)$ of $P(j)$ relative to $P(i) + P(i)$ in wt.% is in the range $2 < A(j) < 85$.

Claim 28 (previously presented): The polymer mixture according to claim 13, wherein the fraction $A(j)$ of $P(j)$ relative to $P(i) + P(i)$ in wt.% is in the range $3 < A(j) < 80$.

Claim 29 (previously presented): The polymer mixture according to claim 13, wherein the fraction $A(j)$ of $P(j)$ relative to $P(i) + P(i)$ in wt.% is in the range $5 < A(j) < 75$.

Claim 30 (canceled):

Claim 31 (previously presented): The polymer mixture according to claim 13, wherein $P(i)$ has a degree of branching $<1 \times 10^{-2}$, and $P(j)$ has a degree of branching $<1 \times 10^{-3}$.

Claim 32 (previously presented): The polymer mixture according to claim 13, wherein $P(i)$ has a degree of branching $<5 \times 10^{-3}$, and $P(j)$ has a degree of branching $<1 \times 10^{-3}$.

Claim 33 (previously presented): The polymer mixture according to claim 13, wherein P(i) has a degree of branching $<1 \times 10^{-3}$, and P(j) has a degree of branching $<1 \times 10^{-4}$.

Claim 34 (canceled):

Claim 35 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity <20 .

Claim 36 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity <10 .

Claim 37 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity <5 .

Claim 38 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation >20 .

Claim 39 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation >30 .

Claim 40 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation >40 .

Claim 41 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation >50 .

Claims 42-43 (canceled):

Claim 44 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in g/cm^3 of >0.9 , and a melting or dropping point in $^{\circ}\text{C}$ of >80 .

Claim 45 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in g/cm^3 of >0.925 , and a melting or dropping point in $^{\circ}\text{C}$ of >100 .

Claim 46 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in g/cm^3 of >0.950 , and a melting or dropping point in $^{\circ}\text{C}$ of >110 .

Claim 47 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in g/cm^3 of >0.970 , and a melting or dropping point in $^{\circ}\text{C}$ of >120 .

Claim 48 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in g/cm^3 of >0.980 , and a melting or dropping point in $^{\circ}\text{C}$ of >125 .

Claim 49 (previously presented): The polymer mixture according to claim 13, wherein the polymer mixture after preparation is present in the form selected from the group consisting of granules, pellets, powder, macro- or micro-fibres, films, casting, continuous, casting, extrudate, thermo-shaped part and combinations thereof.

Claim 50 (previously presented): The polymer mixture according to claim 13, further comprising a swelling agent for at least one of P(i) and P(j).

Claim 51 (currently amended): The polymer mixture of according to claim 14, wherein, if there is a fraction A(j) of P(j) relative to P(i) + P(j) in wt.% within the range $1 < A(j) < 15$, the quotient of the breaking elongation $eb(i, j)$ of P(i) + P(j) and the breaking elongation $eb(i)$ of P(i), $eb(i, j)/eb(i)$ is >1.01 and <1.5 .

Claim 52 (previously presented): The polymer mixture according to claim 13, wherein $0.5 \times DP(P(j)) < DP_s(P(i)) < 5 \times DP(P(j))$.

Claim 53 (new): The polymer mixture accordingly to claim 13, wherein the polymer mixture in the form of a thermoplastic melt is prepared by a means selected from the group consisting of a double-screw extruder, a single-screw extruder with mixing section, a Buss-Ko kneader and combinations thereof